Amendments to the Claims

1. – 25. (canceled)

26.   (new) A method of transmitting modem relay data across a network, comprising:

detecting a call request;

determining that the call request is between a local high-speed modem and a remote high-speed modem;

suppressing modem signals from a local modem;

negotiating physical layer parameters with an ITU-T V.42bis entity on the local modem;

transmitting a ready signal to the local modem when negotiation is complete; and

synchronously exchanging data between the V.42bis entity on the local modem and a V.42bis entity on the remote modem.

27.   (new) The method of claim 26, detecting a call request further comprising detecting a call request from the local high-speed modem.

28.   (new) The method of claim 26, detecting a call request further comprising detecting a call request from a remote gateway in communication with a high-speed modem.

29.   (new) The method of claim 26, detecting a call request further comprising detecting an ITU-T V.8 ANSam signal.

30.   (new) The method of claim 26, synchronously exchanging data further comprising performing compression and decompression of data with the V.42bis entities on the remote and local modems.

31.   (new) The method of claim 26, further comprising transmitting not-ready signals to the local modem until a ready signal is received from the remote gateway.

32.   (new) The method of claim 26, further comprising detecting a loss of synchronization and performing a resynchronization.

33.   (new) The method of claim 32, performing a resynchronization further comprising:

relaying a destructive break condition to the remote gateway;

discarding any data in transit prior to the destructive break; and

resynchronizing communications between the V.42bis entities on the local and remote

modems.

34.   (new) The method of claim 32, detecting a loss of synchronization further comprising

detecting a SABME command from the remote modem and resynchronizing the V.42bis

entities on the local and remote modems in accordance with ITU-T V.42.

35.   (new) A network device, comprising:

a detector to allow the device to detect a call request between a local high-speed

modem and a remote high-speed modem;

a suppression mechanism to suppress modem signals from the local modem;

a negotiation mechanism to negotiate physical layer parameters with the local high-

speed modem;

a signaling mechanism to transmit a ready signal to the local modem when negotiation

is complete; and

a pass-through mechanism to exchange data between V.42bis entities on the local

modem and the remote modem such that the V.42bis entities handle compression and

decompression of data.

36.   (new) The network device of claim 35, the device further comprising a detection

mechanism for detecting a loss of synchronization.

37.   (new) The network device of claim 36, the device further comprising a relaying

mechanism to relay a loss of synchronization due to a destructive break.

38.   (new) The network device of claim 36, the device further comprising a relaying

mechanism to relay a SABME message.

39.   (new) An article of computer-readable media containing code that, when executed, causes the computer to:

detect a call request;

determine that the call request is between a local high-speed modem and a remote high-speed modem;

suppress modem signals from a local modem;

negotiate physical layer parameters with an ITU-T V.42bis entity on the local modem;

transmit a ready signal to the local modem when negotiation is complete; and

synchronously exchange data between the V.42bis entity on the local modem and a V.42bis entity on the remote modem.

40.   (new) A network device, comprising:

means for allowing the device to detect a call request between a local high-speed modem and a remote high-speed modem;

means for suppressing modem signals from the local modem;

means for negotiating physical layer parameters with the local high-speed modem;

means for transmitting a ready signal to the local modem when negotiation is complete; and

means for exchanging data between V.42bis entities on the local modem and the remote modem such that the V.42bis entities handle compression and decompression of data.